

Applicant : David Lockhart, et al.
Serial No. : 09/682,838
Filed : 10/23/01
Page : 2

Attorney's Docket No.: 3370.1

one or more containing members constructed and arranged to contain the substrate and having a first segment and a second segment in contact with the first segment, wherein the substrate is disposed between the first and second segments; and

a separating member constructed and arranged so that,

when the separating member is disposed in a first position with respect to the containing members, at least two of the plurality of microarrays are fluidically separated from each other by the separating member, and

when the separating member is disposed in a second position with respect to the containing members, the at least two microarrays are fluidically coupled with each other.

REMARKS

Claims 2-16 and 28-33 have been examined and all stand rejected. In a Response and Amendment filed February 25, 2003, Applicants canceled claims 1 and 17-27 in response to a final restriction requirement included in the Office Action of September 25, 2002. No new matter is included in this Amendment, and no additional claim fees are due as a result of this Amendment. Attached hereto as Appendix A captioned "Version with Markings to Show Changes Made" is a marked-up version of the changes made to the claims by the current amendment.

Applicants' attorney thanks Examiner Forman for a telephone interview conducted on March 3, 2003, and the opportunity to submit this Supplemental Response and Amendment.

Claim Rejections -- 35 USC §102(b)

Claims 2 and 8-15 have been rejected under 35 USC §102(b) as being anticipated by Rava, *et al.*, U.S. No. 5,545,531. Applicants have herein amended claim 2 to include the limitations of claim 3 (and therefore canceled claim 3). As thus amended, independent claim 2 is directed to an apparatus for processing a plurality of microarrays disposed on a substrate. The apparatus includes one or more containing members constructed and arranged to contain the substrate and having "a first segment and a second segment in contact with the first segment, wherein the

Applicant : David Lockhart, et al.
Serial No. : 09/682,838
Filed : 10/23/01
Page : 3

Attorney's Docket No.: 3370.1

substrate is disposed between the first and second segments.” The apparatus also includes a separating member constructed and arranged so that, “when the separating member is disposed in a first position with respect to the containing members, at least two of the plurality of microarrays are fluidically separated from each other by the separating member, and when the separating member is disposed in a second position with respect to the containing members, the at least two microarrays are fluidically coupled with each other.”

Among other things, Rava does not teach or suggest containing members having “a first segment and a second segment in contact with the first segment, wherein the substrate is disposed between the first and second segments,” as now recited in claim 2 (and the Examiner does not suggest as much).

Because elements of claim 2 are missing from Rava, claim 2 as amended is patentable. Moreover, since claims 8-15 all depend from claim 2, they also are patentable for at least the same reasons stated above with respect to claim 2. Applicant therefore requests that the rejections of claims 2 and 8-15 as anticipated by Rava under 35 USC §102(b) be withdrawn.

Claim Rejections – 35 USC §102(e)

Claims 2-9, 12, 14, 16, and 28 have been rejected under 35 USC §102(e) as being anticipated by Schembri, *et al.*, U.S. No. 6,258,593. Applicants respectfully traverse these rejections and request reconsideration for the same reasons as stated in their Response and Amendment filed February 25, 2003. In brief, Schembri teaches that the reaction chambers are to be fluidically separated from each other, i.e., the reaction chambers are to be sealed. There is no teaching or suggestion that “when the separating member is disposed in a second position with respect to the containing members, the at least two microarrays are fluidically coupled with each other,” as recited in claim 2. Rather than teaching fluidic coupling, Schembri teaches away by emphasizing the importance of fluidic separation.

Because elements of claim 2 are missing from Schembri, claim 2 is patentable. Moreover, since claims 3-9, 12, and 14 all depend from claim 2, they also are patentable for at least the same reasons stated above with respect to claim 2. Claim 16 is an independent claim that includes the same element quoted above with respect to claim 2, and therefore also is patentable for at least the same reasons.

Applicant : David Lockhart, et al.
Serial No. : 09/682,838
Filed : 10/23/01
Page : 4

Attorney's Docket No.: 3370.1

Claim 28 is directed to a microarray processing system having "a first segment; a second segment in contact with the first segment; and a processing array positioned between the first segment and the second segment, and retained in place by the first and second segments." As stated by Applicants in their Response and Amendment of February 25, 2003, Schembri lacks these elements and therefore claim 28 is patentable. In particular, Schembri teaches away by disclosing that the reaction chamber is formed between a cover and the array substrate. Specifically, Schembri teaches forming a reaction chamber "by bringing the inner surface of the cover 3 into contact with the upper surface of the substrate 2." Column 11, lines 9-11. *See also, for example*, column 11, lines 14-15 ("Upon placement of the cover 3 onto the substrate 2, the lip 8 makes contact with the upper surface of substrate 2."); column 11, lines 16-19 ("Compression of the lip onto the substrate by a pressure-producing means forms a good substrate-to-cover seal, the space between the substrate 2 and the recess 9 of the cover 3 thereby defining a reaction chamber."); column 11, lines 38-40 ("Application of pressure to the outer face of cover 3 is required to form the seal between the lip 8 and the substrate 2.") (Note lip 8 is a lip of the cover 3.); and column 11, lines 53-62.

Applicants therefore request that the rejections of claims 2-9, 12, 14, 16, and 28 as anticipated by Schembri under 35 USC §102(e) be withdrawn.

Claim Rejections – 35 USC §103(a)

Claims 10, 11, 13, 15, and 29-33 have been rejected under 35 USC §103(a) as being unpatentable over Schembri, *et al.*, U.S. No. 6,258,593 in view of Rava, *et al.*, U.S. No. 5,545,531.

Claim 10 depends from claim 2 (as well as from claims 8 and 9). For at least the reasons stated above with respect to the patentability of amended claim 2 with respect to Rava and Schembri respectively, claim 2 as amended is also patentable in view of their combination. There is no teaching, suggestion, or motivation in either Rava or Schembri for combining features such as that (a) containing members beconstructed and arranged to contain the substrate and have a first segment and a second segment in contact with the first segment, wherein the substrate is disposed between the first and second segments; and (b) when the separating member is disposed in a second position with respect to the containing members, the at least two

Applicant : David Lockhart, et al.
Serial No. : 09/682,838
Filed : 10/23/01
Page : 5

Attorney's Docket No.: 3370.1

microarrays are fluidically coupled with each other. Because these elements present in claim 2, claim 10 is patentable over the combination of Schembri and Rava. Claim 11 depends from claim 10, and is therefore patentable for at least the same reasons. Claim 13 and 15 both depend from claim 2 (and from claims 12 and 14, respectively), and also are therefore patentable for at least the same reasons as stated above with respect to claim 2. Claims 29-33 depend from independent claim 28. As noted above and in greater detail in Applicants' Response and Amendment of February 25, 2003, Schembri neither teaches nor suggests, and in fact teaches away from, "a first segment; a second segment in contact with the first segment; and a processing array positioned between the first segment and the second segment, and retained in place by the first and second segments" as recited in claim 28. These elements are also lacking in Rava (and the Examiner does not suggest that these elements are found in Rava). Because the elements of claim 28 are lacking in each of the references, they are lacking in the combination and dependent claims 29-33 are therefore patentable over Schembri in view of Rava.

Applicants therefore request that the rejections of claims 10, 11, 13, 15, and 29-33 under 35 USC §103(a) as being unpatentable over Schembri in view of Rava be withdrawn.

CONCLUSION

Applicant respectfully submits that this Amendment addresses all of the outstanding rejections, thereby placing the application in condition for immediate allowance. Allowance of this application is therefore respectfully requested.

If any fees are necessary to enable entry and consideration of this Amendment, such as fees under 37 C.F.R. §§ 1.16 or 1.17, please charge the fees to Deposit Account No. 01-0431. If an extension of time is needed that is not accounted for in the papers filed with this Amendment, then the extension is hereby requested. The necessary extension fee also may be charged to Deposit Account No. 01-0431.

03-13-03 11:40am From-Affymetrix Legal

T-842 P.007/008 F-454

Applicant : David Lockhart, et al.
Serial No. : 09/682,838
Filed : 10/23/01
Page : 6

Attorney's Docket No.: 3370.1

Respectfully submitted,



Alan B. Sherr
Reg. No. 42,147

Date: March 13, 2003
Affymetrix, Inc.
3380 Central Expressway
Santa Clara, CA 95051
781-280-1712

Applicant : David Lockhart, et al.
Serial No. : 09/682,838
Filed : 10/23/01
Page : 7

Attorney's Docket No.: 3370.1

**APPENDIX A
VERSION WITH MARKINGS TO SHOW CHANGES MADE**

2. An apparatus for processing a plurality of microarrays disposed on a substrate, comprising:

one or more containing members constructed and arranged to contain the substrate and having a first segment and a second segment in contact with the first segment, wherein the substrate is disposed between the first and second segments; and

a separating member constructed and arranged so that,

when the separating member is disposed in a first position with respect to the containing members, at least two of the plurality of microarrays are fluidically separated from each other by the separating member, and

when the separating member is disposed in a second position with respect to the containing members, the at least two microarrays are fluidically coupled with each other.